US Army Corps
of Engineers ®
Baltimore District

Restoring
Poplar Island



A National Model for Beneficial Use of Dredged Material

Introduction

Poplar Island, recently on the verge of extinction, is today a national model for habitat restoration and the beneficial use of dredged material. Just off the Chesapeake Bay coastline, about 34 miles south of Baltimore near Talbot County, Md., Poplar Island is being returned to its former size and important ecological function while helping to ensure the economic vitality of the region.

Island history

In 1846, Poplar Island boasted more than 1,000 acres. During the early 1900s, the island supported a thriving community of about 100 inhabitants, several farms, a school, a church, a post office and a saw mill. By the 1920s, residents began leaving the island as more and more of its landmass fell victim to erosion. In the 1930s, a group of politicians bought the island, and in the following years, the island served as a popular vacation retreat for Presidents Franklin D. Roosevelt and Harry S. Truman. However, the island continued to erode. By the early 1990s, all that remained were several small clusters of islets rising just above the surface of the water. Reduced to about four acres, Poplar Island's disappearance seemed imminent.

H. Robins Hollyday Collection, Historical Society of Talbot County

First aerial photo of Poplar Island, taken in the early 1900s.

Aerial photo of Poplar Island prior to restoration.

September 2001 aerial photo of Poplar Island.

Beneficial use – a "win-win" concept

Surveying for perimeter dike construction.

Rather than let the island disappear, an interagency team from the U.S. Army Corps of Engineers, Maryland Port Administration, and many other federal and state environmental agencies decided in 1994 that the island was worth saving. The project's partners began soliciting input from local communities, businesses and environmental groups about ways to accomplish this effort. They decided to explore the possibility of using dredged material from the navigational channels leading to the Port of Baltimore to rebuild the island to its approximate 1847 footprint.

Dredging of the Chesapeake Bay shipping channels.

The Port of Baltimore, as well as most other U.S. harbor and channel systems, must be dredged in order to stay open and remain competitive. The many rivers that flow into the Chesapeake Bay bring a constant supply of fine silt, which settles into the shipping channels. To keep the waterways safe and the port economically viable, routine maintenance dredging has to be done. This has led to the increasing challenge of finding suitable placement areas for the material.

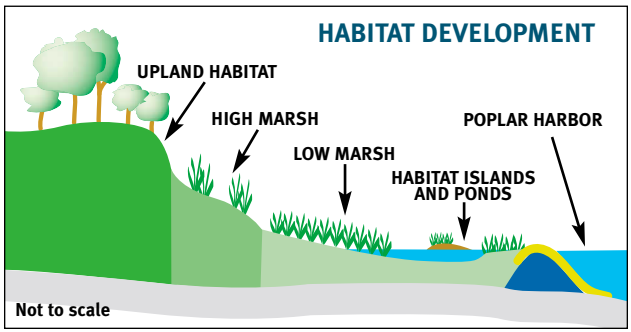
"With this project, two of Maryland's most important assets-the Chesapeake Bay and the Port of Baltimore-are being immeasurably enhanced. It begins a new era for the Port and the Bay and proves that environmental and economic goals can work hand in hand," said U.S. Senator Paul S. Sarbanes, August 1998.

Following the necessary environmental studies, government, business, conservation and civic groups and other stakeholders decided that rebuilding Poplar Island was not only viable but could create over 1,000 acres of diverse habitat. In rebuilding the island, dredged material would be placed and shaped to create wetland and upland habitat that would serve as home to many of the Bay's treasured wildfowl. Their decision is seen by most as a "win-win" solution.

Since the early stages of its construction, the island has attracted a variety of wildlife, such as the Least Tern, left, and the Blue Heron shown below.

Rebuilding an island

Beginning with a cluster of low, marshy knolls and tidal mud flats, engineers first constructed more than 35,000 feet of containment dikes using sand, rock and stone. Within the dikes, clean dredged material is pumped and



Behind reinforced dikes built around the perimeter of the Island, workers offload the dredged material from barges. It is sent through a pipeline to the appropriate place on the island for use in habitat development.

allowed to properly drain to maximize the island's placement capacity, which is about 33 million cubic yards of material over the 16-year life of the project. The material is then shaped to create 1,140 acres of equal shares of wetland and upland habitat.

Shortly after the first dredged material was placed on the island in the spring of 2001, ospreys, egrets, terns, herons, eagles and other wildfowl began to call the newly created island home. Over time, other important ecological changes will occur. As the wetlands mature, they will serve as a natural filter to improve water quality and as valuable habitat for birds, crabs, small fish and shellfish. Extensive engineering work has gone into the wetland development because this effort contributes significantly to the restoration goals for the Chesapeake Bay.

The Port of Baltimore

In 1706, when Maryland's colonial legislature first established the port that would mature into the Port of Baltimore, ships were small and easily accommodated in the Patapsco River. Since the founding of Baltimore in 1729, the city and port have prospered and grown steadily. As ships have become larger, deeper and wider channels and regular maintenance of the channels have been needed to assure safe operation.

The Port of Baltimore is one of the largest and most modern seaports in the nation. The Port's activities contribute some $1.4 billion to Maryland's economy and directly generate $140 million in tax revenues for state and local governments every year. The Port provides jobs for more than 18,000 people, and more than 126,000 Maryland jobs are associated with cargo and vessel activity at the Port.

Container ships unload at Baltimore's Seagirt Marine Terminal.

The island's future

As Poplar Island continues its resurgence, engineers, scientists and others from around the country will closely monitor its success. When the rebuilding of the island is complete, the State of Maryland will manage its long-term stewardship. Many believe the restoration of this island and its habitat will serve as an important link in the ecological chain that anchors the Chesapeake's incomparably rich natural bounty.

Native grasses and plants were planted on the island to prevent erosion.

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